



October 18, 2016

ENERGY SAVINGS PERFORMANCE CONTRACT

Environmental Matter Committee – Project Overview

Honeywell

Agenda

- Introductions
- Background and Process
- ESPC Overview
- Technical Approach
- Investment Grade Audit
 - ECMs Identified
 - ECMs Considered by Not Implementing
- Project Potential
- Timeline Review
- Question and Answer

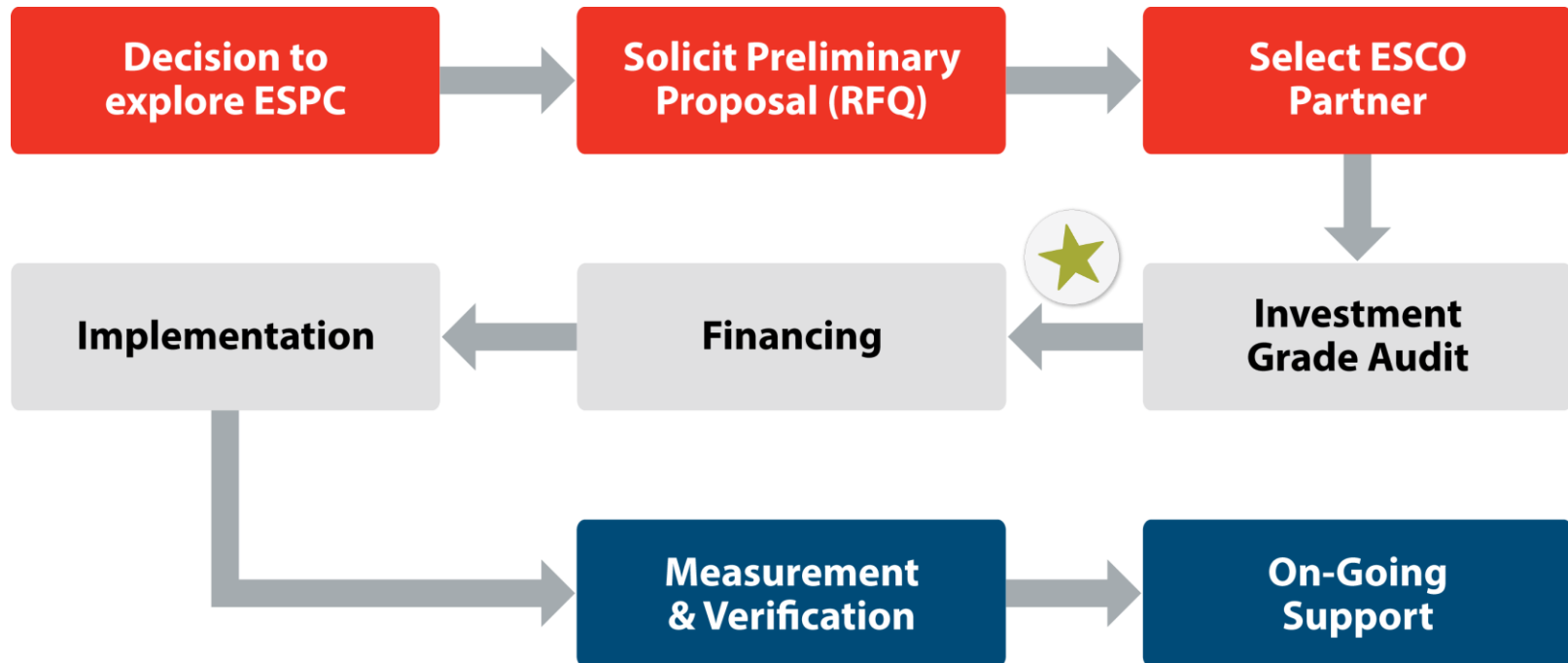


Background

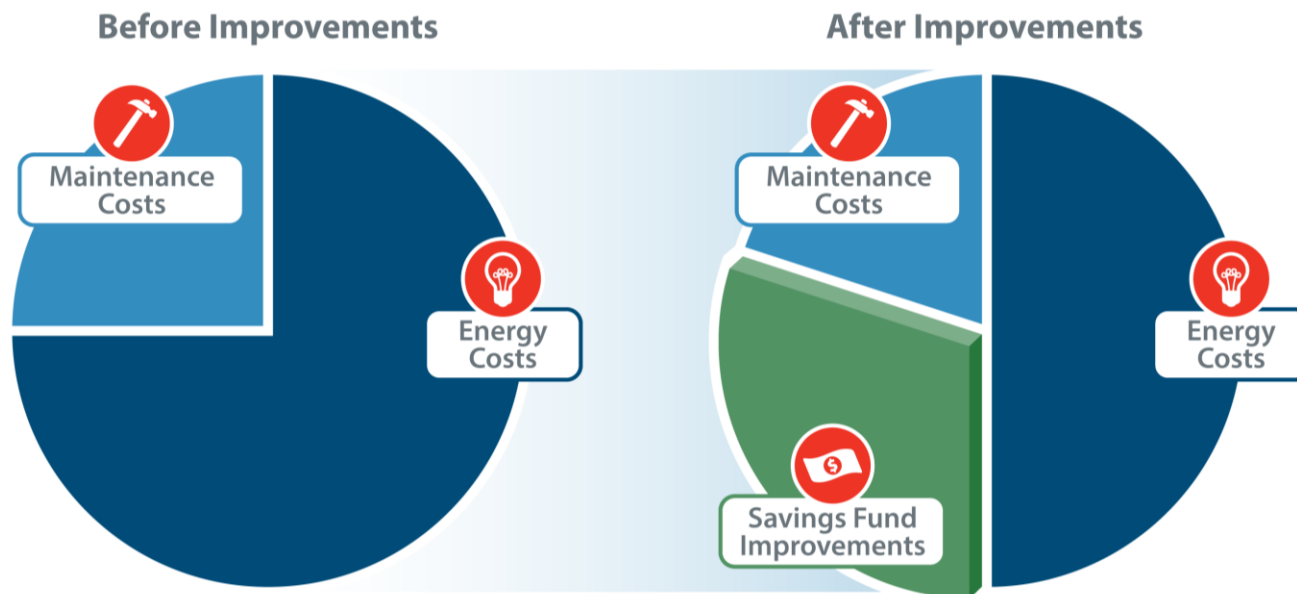
- City explored concept of Energy Savings Performance Contracting (ESPC) working closely with Maryland Energy Administration (MEA)
- DOE grant to MEA for owner's representative services for ESPC projects
- Issued ESPC RFQ in July 2015
- Competitively selected Honeywell
- ESPC project approved as part of the FY17 Capital Improvement Program
- City signed LOI in August 2016 for the Investment Grade Audit (IGA)
- Project financing will require City Council approval
- Debt service will be paid from savings in the City's utility bills, with additional savings anticipated
- Total cost of the energy conservation projects is limited at \$5 million
- Energy savings for the selected projects will be guaranteed by Honeywell
- Rigorous measurement and verification program will be completed by Honeywell for the 15-year life of the program



Process



Energy Savings Performance Contracting Overview



Benefits:

- Projects self-funded funded with Utility and Operational Savings
- No up-front Capital Outlay
- Bundling projects to enable shorter payback measures to fund longer payback projects
- Honeywell Guarantees Performance of Solution and Savings
- Risk transferred to Honeywell
- On-going Measurement & Verification for the life of the program (15 years)



Technical Approach

ECM Selection Methodology and Design Guidelines

- City of Annapolis staff identifies needs and wants
- Ensure technical viability of proposed projects
- Develop a comprehensive solution to maximize savings
- Ensure constructability of all projects
- Design Guidelines for selected projects:
 - Annapolis operating parameters (Schedules, set-points, etc.)
 - Observations made and data collected during site visits
 - Preliminary Utility Analysis Report
 - Review and understanding of the utility baseline
 - Building comparisons to EUI data for mid-Atlantic
 - ASHRAE standards
 - IESNA lighting standards
 - ASME standards
- Use proven Honeywell best practices



Energy Conservation Measures (ECMs)

- ECMs Identified

- Building and Street Lighting
 - LED light fixtures
 - Lighting control sensors
 - LED street lights
- Mechanical Retrofits
 - HVAC system replacements
 - Retro-commissioning
- Building System Management
 - Integration of energy management systems
 - System balancing
 - Install communicating thermostats
- Building Envelope
 - Weather strips
 - Window seals
 - Insulation



Investment Grade Audit

- Proposed use of ECMs for City Buildings

City of Annapolis, MD																				
Energy Conservation Measures Summary Matrix																				
Building & ECM	145 Gorman City Office Building	Annapolis Fire Department Headquarters	Annapolis Police Department	Central Purchasing	City Hall	Department of Public Works	Department of Transportation	Eastport Fire Department	Gott's Court Garage	Hillman Parking Garage	Johnson Harbormaster Building	Knighton Garage	Market House	Park Place	Roger Pip Moyer Community Rec Ctr	Stanton Community Center	Street Lighting	Taylor Ave Fire Department	Water Treatment Plant	Water Wells
1A LED Lighting	X	X	X	X	X	-	X	X	X	X	X	X	-	-	X	X	-	X	-	-
1B Street Lighting	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-
1C Vending Controls	X	X	X	-	X	-	X	X	-	-	X	-	-	-	X	X	-	X	-	-
1D Computer Power Management	-	X	X	X	X	-	X	X	-	-	X	-	-	-	X	X	-	X	-	-
2D1 Air Handling Unit Replacement	-	X	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-
2D2 Condensing Unit Replacement	-	X	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-
2F Rooftop Unit Retro-commissioning	-	-	-	-	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-
2G Heat Pump Replacement	-	-	-	-	-	-	-	X	-	-	X	-	-	-	-	-	-	-	-	-
3A Building Management System	X	X	X	X	X	-	X	X	-	-	-	-	-	-	X	X	-	X	-	-
4A Building Envelope Improvements	-	X	-	X	X	-	X	X	-	-	-	-	-	-	X	X	-	X	-	-



Investment Grade Audit

- ECMs Considered but Not Selected for Implementation
 - Solar carport at parking garages – high cost, low savings, too small for PPA
 - Well pump VFDs – savings available, but at high cost
 - Boilers – savings available, but at a high cost
 - Transformers – long payback
 - New roof – long payback
 - De-stratification fans – long payback
 - DHW Heaters – long payback
 - Lightning protection – no related energy savings
 - Plug load – already implementing
 - Window units – other improvements will reduce use



Project Potential

	Estimated Project Value	Annual Savings	Total Positive Cash Flow
Project @ 2.0% Interest Rate	\$4,996,454	\$533,283 (Additional \$53,513 in on- time rebates)	\$1,404,712



Timeline

ACTION

Week Of/Day:

Building Surveys	Complete on September 9, 2016
30% ECM Review	September 14, 2016
60% ECM Review & Finance Workshop	October 13, 2016
Presentation to Environmental Matters Committee	October 18, 2016
Finance Workshop	October 18, 2016
90% ECM Review, Measurement & Verification and Construction Workshop	November 3, 2016
Audit Complete - Present Final Project to City of Annapolis	November 14, 2016
Project Discussion at Council Work Session	November 17, 2016
City Council – 1 st Reader	November 28, 2016
City Council – Public Hearing	December 12, 2016
City Council Committees	December 13, 2016 - January 6, 2017
City Council – 2 nd and 3 rd Reader	January 9, 2017
Energy Performance Contract Signed	January 2017
Construction Kickoff	1 st Quarter 2017



Questions ?

